REMARKS

The present invention involves a phase jitter parameter, which may be encoded and transmitted along with sinusoidal amplitude and frequency parameters of a signal, and may be decoded in a receiver and used along with the amplitude and frequency parameters to restore the signal. The September 20, 2004 first office action in this case rejected all claims under 35 U.S.C. § 102(e) as anticipated by U.S. Patent No. 6,475,245 to Gersho et al. ("Gersho"). Applicant's response filed on December 20, 2005, pointed out that Gersho does not anticipate the claims because Gersho lacks a phase jitter parameter.

The May 26, 2005 office action stated that applicant's arguments were considered moot in view of a new ground of rejection. The new ground is that all claims are rejected under 35 U.S.C. § 103(a) as unpatentable over Gersho in view of U.S. Patent No. 5,054,072 to McAulay. In stating the rejection, the examiner repeated the statement of grounds for rejection in the September 20, 2004 office action (down to the typo that was pointed out in applicant's response); the new ground for rejection is represented by one added paragraph.

The examiner acknowledges that among the parameters that Gersho transmits, phase parameters are *not* included. It is irrelevant whether Gersho's receiver assigns phases of generated signals based on other *non-phase* parameters that are transmitted. As stated in applicant's prior response, the simple fact is that Gersho explicitly states that no phase information whatsoever is transmitted. While applicant continues to rely on all the arguments therein, the following bears repeating:

> Whatever phase information may exist in the Gersho encoder or decoder, it is clear that no phase information is transmitted from the encoder to the decoder. This is apparent throughout Gersho's disclosure, and is flatly stated in several places, including:
>
> > Since no phase information is sent from the encoder to the decoder, phase synchronization is based solely on the reconstructed speech (at the decoder) and the reconstructed speech and the original speech (at the encoder). Phase synchronization

> when switching from the transition model to the voiced (harmonic) model (onset synchronization) is performed in both the decoder and encoder. The decoder uses the estimated linear phase for the reconstruction of the speech, and the encoder uses the linear phase to keep track of the phase evolution which is needed for the next synchronization step to occur later when switching from the voiced model to the transition model (offset synchronization). (Col. 14, line 58 - col. 15, line 4; emphasis added.)
>
> Since no phase information is sent from the encoder to the decoder, only the spectral magnitude information needs to be quantized and sent. (Col. 25, lines 51-53; emphasis added.)

The citation to McAulay addresses the lack of transmitted phase parameters, because McAulay does indeed transmit phase parameters. However, applicant does not claim to have invented the general concept of transmitting phase parameters along with amplitude and frequency parameters for use in reconstructing an audio signal. The issue is *what phase parameters are transmitted.* Transmitting complete phase information requires bits that may preferably be allocated for another purpose. McAulay addresses that problem by transmitting, instead of a phase parameter that varies over the full range $(-\pi,\pi)$, a "pitch onset time" at which excitation contributions are locked into synchrony, as well as a set of "phase residuals" that have a smaller range than $(-\pi,\pi)$. See Fig. 5, steps 62, 74, 76, 78, col. 8 lines 30-44, and col. 11 lines 23-50.

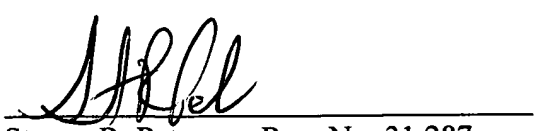
Three different techniques are presented for determining phase in reconstructing a sinusoidally-encoded audio signal. Gersho transmits no phase information, and the receiver synthesizes the phase. McAulay transmits actual phase information that is coded as pitch onset time and residual phase, which McAulay asserts to be an efficient way of coding the phase information. The present invention uses an entirely different technique: phase jitter parameters are transmitted, and used in a receiver to control application of phase jitter during signal synthesis. Advantages of applicant's invention are set forth in the application at page 2 lines 5-20.

The examiner asserts that it would have been obvious to modify the Gersho phase calculation with the McAulay phase calculation and transmission "because that particular phase calculation technique could accurately capture the random noise-like quality deviation present during unvoiced speech," citing McAulay at col.8 lines 66-68. That phrase is not understood, but whatever it may mean, the reasoning of modification of Gersho by McAulay is not understood. If the phase calculation technique of Gersho is replaced by that of McAulay, then the result is merely McAulay. If McAulay disclosed the claimed phase synthesis system, §102 would seem the appropriate basis for rejection. However, modifying Gersho by McAulay does not yield the claimed invention because neither transmits a phase jitter parameter. Moreover, a rejection based on modifying Gersho to transmit a phase parameter of any type is improper because Gersho is directed to systems in which no phase information is transmitted, and modifying McAulay to transmit phase parameters other than pitch onset time and residual phase is improper because it would obviate McAulay's entire invention.

Nothing in Gersho or McAulay suggests modifying one by the other, and nothing in either discloses or suggests determining a phase jitter parameter in a transmitter, transmitting the phase jitter parameter, or using a transmitted phase jitter parameter in a receiver. Withdrawal of the obviousness rejection based on these references is requested.

For the foregoing reasons, it is respectfully submitted that the pending claims are allowable. Reconsideration and further examination is respectfully requested, and a favorable notice is solicited.

Respectfully submitted,



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